

IN THE CLAIMS:

Please amend the claims as follows.

1. – 30. (*Cancelled*)

31. (*Currently Amended*) A medical device comprising:

a substrate constructed and arranged for insertion into a patient and having at least one luminal surface; and

a plurality of monomer molecules directly graft polymerized onto the surface of the substrate, forming a coating thereon, from a medium having reversed phase properties from the substrate, in terms of hydrophilicity, and comprising at least one salt ~~salt~~, wherein the graft polymerization is thermally initiated by an organic free radical initiator, which organic free radical initiator is on the surface of the substrate prior to thermal initiation.

32 (*Original*) A medical device according to claim 31, wherein the substrate is ~~selected from the group consisting of guide wires, and a catheter~~ catheters selected from the group consisting of PTCA catheters, cardiology catheters, central venous catheters, urinary catheters, drain catheters, and dialysis catheters.

33 (*Cancelled*)

34 (*Currently Amended*) A medical device according to claim ~~33~~, 32 wherein the substrate has a lumen having both interior and exterior surfaces, and at least a portion of both the interior and exterior of the lumen is coated with monomer molecules graft polymerized to the lumen surface.

35 (*Currently Amended*) A system for forming a graft polymerized medical device comprising:

a substrate constructed and arranged for insertion into a patient and having at least one luminal surface;

an organic free radical initiator capable of thermally initiating a graft polymerization reaction on the substrate to generate reactive radical sites on the surface of the substrate; and

a composition comprising one or more monomers in a medium which has reversed phase properties compared to the substrate, in terms of hydrophilicity, and comprising at least one salt wherein the polymer graft polymerized is grafted directly onto the substrate and wherein the graft polymerization is thermally initiated by an organic free radical initiator on the surface of the substrate at the time of thermal initiation.

36. (New) A medical device comprising:

a substrate constructed and arranged for insertion into a patient, and  
a coating thereon, free of a binding component or a linking component, comprising a plurality of monomer molecules directly graft polymerized onto the surface of the substrate from a medium having reversed phase properties relative to the substrate, in terms of hydrophilicity.